

## A new species of *Acomis* from the Northern Territory and a new combination in the genus *Thiseltonia* (Asteraceae: Gnaphalieae)

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### Abstract

Wilson, Paul G. A new species of *Acomis* from the Northern Territory and a new combination in the genus *Thiseltonia* (Asteraceae: Gnaphalieae). *Nuytsia* 8(3): 479-483 (1992). The recognition of the genera *Rutidosia*, *Acomis*, and *Thiseltonia* is discussed. A new species, *Acomis kakadu*, is described from Kakadu National Park, Northern Territory, and a new combination, *Thiseltonia gracillima*, is made for the plant previously known as *T. dyeri*.

### Introduction

The name *Acomis* was published by F. Mueller in 1864 and validated along with *Acomis macra* F. Muell. by a generic-specific description, but nowhere in the protologue did Mueller indicate that a new genus was involved and, in fact, both Bentham (1873) and Mueller (1882 & 1889) attributed the publication of *Acomis* to an earlier (1860) paper by Mueller where, under a description of *Rutidosia acoma*, he indicated that he had used the manuscript name *Acomis rutidosea* for this species on herbarium sheets but that he was now placing it in *Rutidosia* section *Acomis*. However, since the sectional name was not accompanied by a sectional description it was not validly published. Possibly due to the casual manner of its publication the name *Acomis* was incorrectly attributed to Bentham (1867) by Farr *et al.* (1979) and by Anderberg (1991) while the last author incorrectly indicated its type as being *A. acoma* (F. Muell) Druce (= *Rutidosia acoma* F. Muell.). The correct choice of type is critical since the type that has been designated by Anderberg (1991) and the type designated by me have different style shapes and, as is discussed below, with a revised classification could be placed in different genera.

Mueller later (1893) included *Acomis* in *Humea* Sm. (as sect. *Acomis*) along with *Haeckeria* F. Muell. (1853) (as sect. *Haeckeria*) and *Pithocarpa* Lindley (1839) (as sect. *Pithocarpa*) but he retained *Rutidosia* as a distinct genus. Mueller also indicated that he was placing *Humea gracillima* in sect. *Acomis* although he had not at that time validly published the species name.

De Candolle (1838) recognised that the types of *Humea* Sm. (Dec. 1804) and *Calomeria* Vent. (Oct. 1804) were conspecific and he therefore synonymized the latter name under the former. Heine (1967) accepted de Candolle's synonymy but noted that *Humea* was published shortly after *Calomeria*, he therefore made a number of new combinations in the latter genus based on those names

in *Humea* recognised by Mueller (1893) and those described later based on African material. All recent authors (e.g. Lewis & Summerhayes 1951, Grieve 1975, Anderberg 1989, 1991) have followed Bentham (1867) in regarding *Pithocarpa* as a distinct genus. Willis (1967), in discussing a number of taxa related to *Cassinia*, recognised *Calomeria* and *Haeckeria* as separate genera distinct from *Acomis* and *Rutidosia*; his generic taxonomy has been accepted in Australia. The African plants that had been placed in *Calomeria* are now considered to be epappose species of *Helichrysum* (Hilliard and Burt 1973, Hilliard 1983).

In 1896 Mueller and Tate formally published *Humea gracillima* which Mueller (1893) had previously mentioned by name only; they suggested that it was 'closely allied to *Acomis macra*'. The former taxon was subsequently described independently by Hemsley (1905) as a new genus and species, *Thiseltonia dyeri*. It differs from the species currently included in *Acomis* in being a delicate minutely glandular-puberulous annual, in having the outer florets female with very slender 4-lobed corollas, in having (in the bisexual florets) truncate style appendages with a central subulate apex, and in having a diaphanous papillose pericarp that is united to the pale brown papery testa. In *Acomis* the species are more or less woolly, the florets are all bisexual, and the pericarp is thick, crustaceous and free from the membranous testa.

The species currently placed in *Acomis*, *Rutidosia*, and *Thiseltonia* have involucreal bracts with similar clearly demarcated stereomes which completely enclose the vascular strands, they also have similar corolla shapes, and similar small anthers in which the tails are fine and difficult to discern.

Although Bentham (1867, 1873) recognised both *Acomis* and *Rutidosia* DC. (1838) he considered their separation to be artificial since it was based solely on the presence (in *Rutidosia*) or absence (in *Acomis*) of a pappus. The species of the two genera can also be divided into two groups based on their style morphology. In one group the style appendage is truncate while in the other it is narrowly triangular. In the former group are found the type species of both *Rutidosia* and *Acomis*, viz. *Rutidosia helichrysoidea* DC. and *Acomis macra* F. Muell.; in the latter group are found *Rutidosia leucantha* F. Muell. and *Acomis acoma* (F. Muell.) Druce. Further work may indicate that *Acomis* and *Rutidosia* are best treated as being congeneric, or it may suggest that the generic circumscription within the complex should be based more on the morphology of the style apex and less on the presence or absence of a pappus; if the former taxonomy were decided on then the correct name for the complex would be *Rutidosia*, if the latter then a new generic name would be required for those species with acuminate style apices including the single *Acomis* species described in this paper.

Anderberg (1991) comments on the close relationship between *Acomis* and *Rutidosia* and on the marked similarity of these genera to *Leptorhynchus* and *Chrysocephalum*. I agree with the first observation but not the second since I consider that the morphology of the achenes and of the involucreal bracts in the first pair of genera is so obviously distinct from the morphology of the achenes and bracts in the second pair as to provide a clear generic separation.

### **Acomis**

*Acomis kakadu* Paul G. Wilson, sp. nov. (Figure 1)

Herba erecta ad 40 cm alta, gossypina. Folia linearia, 2-4(8) cm longa. Involucrum hemisphericum; bracteae multiseriatae, homomorphicae; lamina ovata, alba, 4-8 mm longa. Receptaculum conicum,

villosum. Flosculi numerosi, homogami. Corolla c. 2.5 mm longa, apicem versus late turbinata. Styli angustissime triangulares. Achenium doliiforme, c. 1.4 mm longum; pericarpum crustaceum, colliculis et papillis globosis dense ornatum, bruneum.

*Typus*: Kakadu National Park, 10 km west-south-west of Jabiru East, 15 May 1980, *L.A. Craven* 5466 (holo: CANB 307405; iso: CANB 307406, PERTH).

Erect annual herb to 40 cm high. Stem single, slender, grey cottony, giving off branches above the base. Leaves alternate, narrow linear, 2-4(8) cm long, 1 mm wide, very sparsely cottony. Inflorescence corymbose, peduncles 1-3 cm long, cottony, bearing a few foliaceous bracts with scarious apices that grade into the involucre bracts. Involucre hemispherical. Involucre bracts multiseriate, loosely arranged, homomorphic; claw broad-oblong, c. 2 mm long, 1 mm wide, sparsely long-ciliate, filled by a green flat stereome except for the narrow translucent margin; abruptly separated from the lamina by a horizontal fold; vascular strand branched, not extending beyond the stereome; lamina ovate, white, 4-8 mm long. Receptacle conical, c. 3 mm high, smooth, white-villous. Florets numerous, homogamous, actinomorphic, equal to involucre. Corolla narrow-cylindrical below and very sparsely pilose, broadly turbinate above, in all c. 2.5 mm long; lobes 5, triangular, c. 1 mm long, smooth within, very sparsely and minutely glandular puberulous outside, vascular strands extending to near tips. Anther loculi c. 1 mm long; appendage broad ovate, obtuse, c. 0.25 mm long, thickened and obtuse at base; tails absent; collar narrow-oblong, slightly broader at base, 0.3 mm long. Style apex very narrowly triangular, c. 1 mm long, prominently papillose. Achene compressed barrel-shaped, c. 1.4 mm long, myxogenic; carpodium absent; pericarp crustaceous, brown, minutely colliculate, the colliculi interspersed with larger duplex, rounded, clear papillae; testa free from pericarp, papery, very pale brown, vascular strand slender and extending around apex of seed and half way down other side. Pappus absent.

*Specimens examined*. NORTHERN TERRITORY: 12 miles south east of Mt Brockman, *N. Byrnes* 2705 (NT); 18 km north-north-east of Jabiru East, *L.A. Craven* 6347 (CANB); 26 km south-south-east of Jabiru East, *M. Lazarides* 9138 (CANB).

*Distribution*. Only known from the Kakadu National Park in the Northern Territory.

*Habitat*. Open *Eucalyptus* or *Acacia* woodland on sandstone plateau.

*Etymology*. The species is named after the National Park in which it is found.

This species does not appear to be closely related to any other species in the genus. The only other member that has acuminate style branches is *A. acoma* which differs markedly in having broad flat leaves, a naked convex receptacle, and finely tailed anthers.

### **Thiseltonia**

***Thiseltonia gracillima*** (F. Muell. & Tate) Paul G. Wilson, comb. nov.

*Humea gracillima* F. Muell. & Tate, Trans. & Proc. Roy. Soc. South Australia 16:367(1896); F. Muell., Victorian Nat. 9:144(1893) *nomen*. - *Calomeria gracillima* (F. Muell. & Tate) Heine,

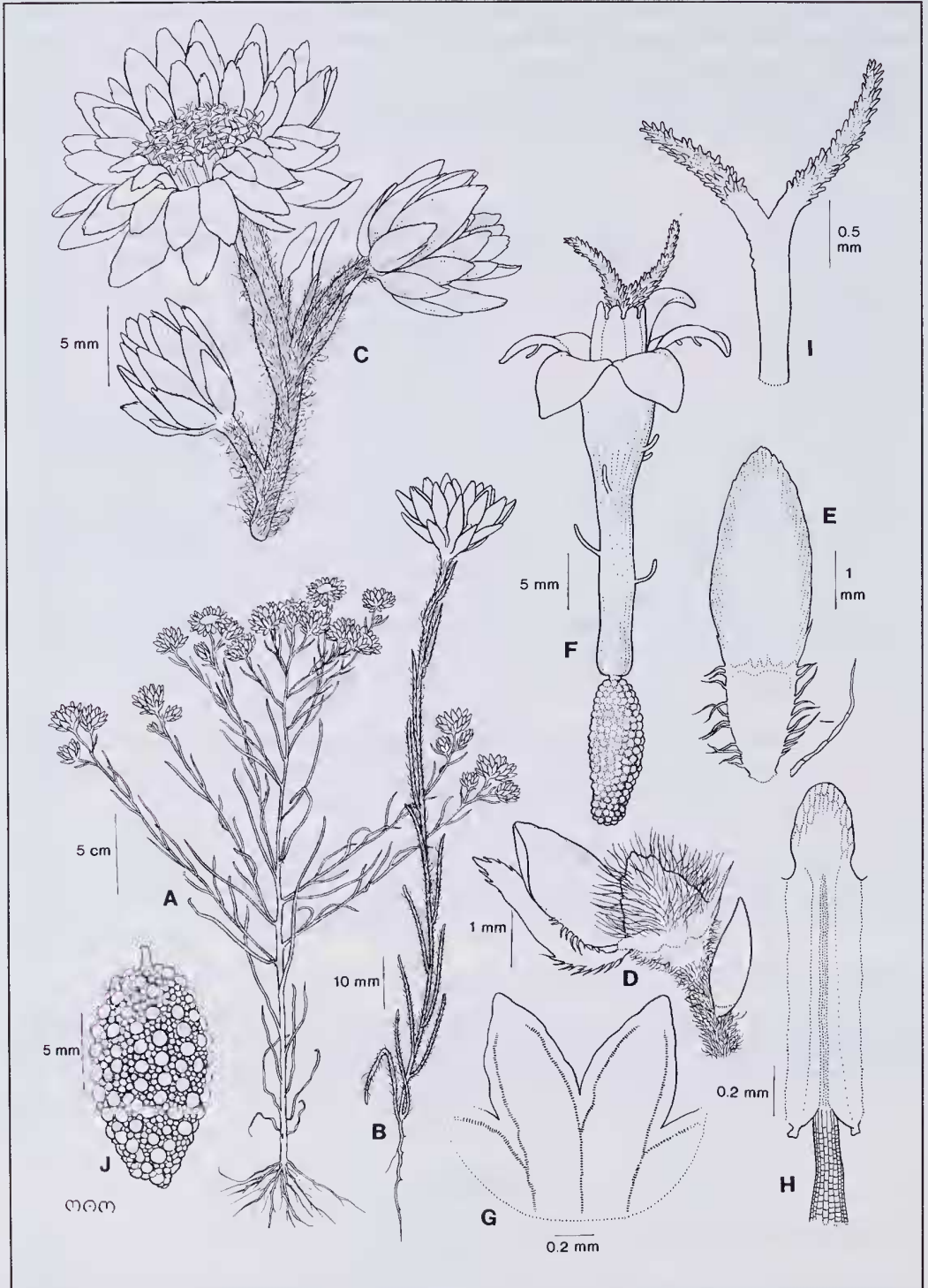


Figure 1. *Acomis kakadu*. A & B - habit. C - cluster of capitula. D - receptacle. E - intermediate involucre bract. F - floret. G - two corolla lobes showing venation. H - anther. I - style arms. J - achene. A-I from L. Craven 5466, J from L. Craven 6347.

*Adansonia* ser. 2, 7:138(1967). *Lectotype* (here chosen): Elder Exploring Expedition, Victoria Desert Camp 44 [c. 27°S, 127°E, Western Australia], 7 September 1891, *R. Helms* (MEL, iso: NSW 179949).

*Thiseltonia dyeri* Hemsley, Hooker's Icon. Pl. 28: tab. 2781(1905). *Typification*: 'West Australia: Dedari, twenty-four miles west of Coolgardie, at 1,400 feet above sea-level, G.H. Thiselton-Dyer'. *Type n.v.*

Hemsley, *op.cit.*, suggested that *Thiseltonia* was related to *Pithocarpa*, while recently Anderberg (1990) has proposed a close affinity to *Hyalosperma* Steetz to which in general appearance *Thiseltonia* undoubtedly corresponds. However, as is mentioned above, the corolla, anthers, style appendages, and involucre bracts of *Thiseltonia* all indicate a close relationship to *Acomis*, an affinity that Mueller (1893) had previously indicated when he placed the taxon in *Humea* sect. *Acomis*.

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### References

- Anderberg, A. (1989). Phylogeny and reclassification of the tribe Inuleae (Asteraceae). *Canadian J. Bot.* 67:2277-2296.
- Anderberg, A. (1991). Taxonomy and phylogeny of the tribe Gnaphalieae (Asteraceae). *Opera Botanica* 104:1-195.
- Bentham, G. (1867). "Flora Australiensis," vol. 3. (Lovell Reeve & Co., London.)
- Bentham, G. (1873). In G. Bentham & J.D. Hooker, "Genera Plantarum" Vol. 2. (Lovell Reeve & Co., London.)
- Candolle, A.P. de (1838). "Prodromus systematis naturalis regni vegetabilis." Vol. 6. (Treuttel & Wurtz, Paris.)
- Farr, E.R., Leussink, J.A. & Stafleu, F.A. (1979). "Index nominum genericorum." Vol. 1. (Bohn, Scheltema & Holkema, Utrecht.)
- Grieve, B.J. & Blackall, W.E. (1975). "How to know Western Australian Wildflowers." Part IV. (University of Western Australia Press, Perth.)
- Heine, R. (1967). *Calomeria* in "Ave Caesar, botanici te salutant." *Adansonia* ser. 2, 7:137-139.
- Hemsley, W.B. (1905). *Thiseltonia dyeri* in Hooker's Icones Plantarum 28: tab. 2781.
- Hilliard, O.M. (1983). "Flora of Southern Africa. Vol. 33 Asteraceae. Part 7, Inuleae fascicle 2, Gnaphaliinae (first part)." 1:325. (Department of Agriculture, Pretoria.)
- Hilliard, O.M. & Burt, B.L. (1973). Notes on some plants of southern Africa chiefly from Natal: III. *Notes Roy. Bot. Gard. Edinburgh* 32:303-387.
- Lewis, P. & Summerhayes, V.S. (1951). *Pithocarpa* Lindl. *Kew Bulletin* 1950:435-440.
- Mueller, F. (1860). *Rutidosia acoma*. *Fragmenta Phytographiae Australiae* 2:89.
- Mueller, F. (1864). *Acomis macra*. *Fragmenta Phytographiae Australiae* 4:145.
- Mueller, F. (1882). "Systematic census of Australian plants. Part 1." (Victorian Government, Melbourne.)
- Mueller, F. (1889). "Second systematic census of Australian plants. Part 1." (Victorian Government, Melbourne.)
- Willis, J.H. (1967). Systematic notes on the indigenous Australian flora. *Muelleria* 1:117-163(1967).